

no stragglers, but towards maturity the larvæ scatter, the main body of the family keeping together till nearly grown. The 'nettles,' as we designate a certain spot, is a patch of that plant covering more than three quarters of an acre, lying on each side of a lane. I have seen perhaps forty families of these larvæ feeding there at one time, but never under the shade of trees which cover much of that ground. The larvae were always out in the sun. I have found the larvae will starve rather than eat the broad-leaved nettle."

Again, 17th July: "I visited the nettles yesterday. Found but one group of larvae, they about  $\frac{3}{4}$  inch long. A bright-colored bug (Hemipter) with a long beak was active in picking off the larvae. I found four in a bent and closed leaf with one larva of *G. Comma*; six in a similar leaf; two in a leaf that was closed but not bent, two unprotected on the under side of a leaf, and one in plain sight on upper side. Found also a bunch of eggs just hatched, and the larvae had crawled to under side of the leaf and lay like a flock of sheep, heads up."

Again, 20th: "Found one group of about 200 larvae, all on upper sides of two opposite leaves, and a few inches below a web at top of the plant. These larvae measured  $\frac{1}{2}$  inch" (at or about 3rd moult).

"Another group, measuring  $\frac{3}{4}$  inch" (after 4th moult) "were hidden in closed leaves on different stalks. Part of these closed leaves had the ribs cut, and these were crowded; the closed but uncut leaves had from one to four tenants. I have often noticed and know that after the last moult, the larvae scatter and feed openly. Can see a family several rods away where they are numerous."

I separated several of my larvae at one stage or other of their growth and gave leaves of our common broad-leaved nettle. At first they refused the food, then nibbled a little, and finally eat some leaves. But none of these larvae reached pupation, nor even passed a moult. They dwindled away and died. The same thing happened with larvae sent me in 1884. Mr. Gilbert reports a similar experience, as before said.

Specimens of the butterfly from the western plains and to Pacific have not the bright coloration seen at the east. They have a faded look.

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#### ELAPHIDION VILLOSUM, FAER.

BY FREDERICK CLARKSON, NEW YORK CITY.

There is in the study of Entomology a fascination and delight that captivates the imagination, and renders the enthusiast liable to construct

theories based upon such slender foundations that they fail to reach the dignity of assured facts. This, I think, may be said of much that has been written concerning the habits of this beetle. The record which I have thought proper to make relates to veritable facts, but whether in the particular instance referred to they are to be regarded as extraordinary and not of common occurrence, may be a problem yet to be solved. I trust that in offering this paper I may not be thought presumptuous in differing with so distinguished Entomologists as Drs. Harris and Fitch, yet as my observations do not bear out the conclusions which they have reached, and apprehending that the best interests of the science are served by that record or enquiry which relates to the discovery of facts, I make no apology to these fathers in the science for transcribing in relation to this subject views somewhat dissimilar to theirs.

Dr. Harris says that if a burrow be split open in winter, it will be found to contain the larva, which in the spring assumes the pupa form, and in June or July is changed into a beetle. He is in accord with Dr. Fitch concerning the periods of transformation, and holds similar views with him as to the habit of pruning. Dr. Fitch, I think, unduly exalts the instincts of these beetles as illustrated in their larval habit of pruning the twigs and branches of the oak, contending, as he does, that the twig or branch is eaten away by the young larva for a small space, and left supported only by the bark that the autumn winds may fell it to the ground, and that the environment of its new condition is necessary to the transformation of the included larva. This is substantially what each writer has to say upon the subject, though Dr. Fitch's report is very lengthened and rather extravagant in imaginative conclusions.

These oak pruners were very abundant in Columbia County, this State, in the season of 1878. The September winds brought showers of twigs and branches to the ground. I examined many of them, and found each to contain the larva, nearly full grown, in tunnels measuring from ten to fifteen inches long. I gathered five goodly sized branches just after they had fallen for the purpose of illustrating the burrows in my cabinet of nest architecture. The branches remained on a table in a room having very nearly the condition, thermometrically, of the temperature without, until the early part of November, when I opened them for the purposes already stated. I was astonished to find that every burrow contained the beetle; the transformation, therefore, from the larva to the imago was completed in less than eight weeks—how much less I know not—and

without the surroundings as narrated by Drs. Harris and Fitch. I am therefore inclined to the opinion, born of these facts, that the transformation, barring strong winds, is as likely to occur in the tree as on the ground, and that the branch is eaten away by the young larva not for the extraordinary reasons as cited, but for the more probable one, to prevent the flow of sap, which, if not checked, may render the wood fibre unwholesome to the larva, or possibly affect injuriously the later condition of pupa and imago. It would appear, moreover, that the beetle is developed in the autumn, and remains within the burrow during the winter.

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## MONOGRAPH OF THE EMBIDINA.

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(Continued from page 178.)

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BY DR. H. A. HAGEN, CAMBRIDGE, MASS

### 10. *Embia Mauritanica*.

*E. Mauritanica* Lucas, Explor. Alger., vol. iii., p. 111-114; Neur. pl. 3, f. 2, a-n. Cuvier, Edit. Masson, Neur., pl. 106, f. 8 (copy of Lucas' figure).

*E. Mauritanica* Lucas, Ann. Ent. Soc. Fr., 1859, ser. iii., vol. vii., p. 440-444.

I have never seen this species, and give the substance of the very detailed description of Mr. Lucas.

Winged imago: Length of body  $13\frac{1}{2}$  mill.; exp. of wings 16 mill. Body rufous-fuscous, rufous-villous; head longer than broad, flat, smooth; depressed transversally behind the eyes; frontal part reddish; eyes reniform, black; antennæ 15-jointed, smooth and not villous (as in *E. Savignyi*), a little paler than the head; the joints after the 6th successively longer; labrum and palpi dark rufous; max. palpi thinner than in *E. Savignyi*, the two apical joints longer; labial palpi also more slender and the apical joint longer; prothorax a little longer than in *E. Savignyi*, with a transversal sulcus in the apical third; mesothorax anteriorly between the wings on each side with a yellowish transversal tubercle; metathorax similar. Legs dark rufous-fuscous, with the usual dilatation of the femur and the basal joint of tarsi of fore legs. Wings as long as